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ABSTRACT

A project to continue operation of the Virginia AG ED Network, a free, online computer-based instructional information system, is described. Curriculum material, news information, and instructional material were collected for input into the database for use by teachers. The project also provided inservice workshops to agricultural education teachers on the use of telecommunications, including but not limited to the Virginia AG ED Network, and its implementation in the agricultural education classroom. (YLB)

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Final Report

Title of Project: Microcomputers in Agricultural Education

VA-84-C-131-3-AG-001

Type of Project: Educational Telecommunications Network

Conducted Under
Vocational Education Amendments of 1976
Public Law 94-482

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August 10, 1987

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Abstract

Title: Microcomputers in Agricultural Education.

Time Period: July 1, 1986 - June 30, 1987

Project Objectives:

1. To continue to operate the Virginia AG ED Network, as a free, computer-based instructional information system.

2. To add to the Network's instructional data base and services.

3. To provide inservice workshops to agriculture teachers on the use of telecommunications and its implementation in the classroom.

Results:

1. The network has been "on-line" approximately 95% of the time, 24 hours per day, 7 days a week since August, 1986. It remains on-line as of this date under continuing funding from Tech.

2. Approximately 200 educational items were added to the system during the year, including lesson plans, instructional materials, competency checklists, tests, learning activity packages, and news items. There are no system categories without any entries.

3. During June - August 1986 I conducted a total of 6 workshops serving 117 teachers in all geographic areas of the state. In addition, a 3 credit hour graduate level course for agriculture teachers was taught in June-October, which included use of the network as a component. Seventeen teachers enrolled.

Evaluation, Conclusion, & Recommendations:

The concept of an electronic educational network for agriculture teachers in Virginia is not economically practicable at this time. The number of teachers in 1987 who have the hardware and budgetary resources is not adequate to justify the expenditure of state funds on a full-scale network. The experience of this project and that of the West Virginia project which has spent millions of dollars on hardware, software, and teacher training, have shown that to me very clearly.

On the other hand, the technology is too important to our educational system's and our students' futures, for us to simply give up. This project was worthwhile, not for its direct results, but from the standpoint of the direction that agriculture teachers in Virginia have begun to move because of exposure to the Virginia AG ED Network and the workshops I have conducted as a part of the project. In other words, the project represented a good investment of Virginia tax dollars, but not for the project's primary objectives. I recommend that it not only be continued, but expanded, not a direct service to the teacher, but as a source

of direction for the teachers to begin looking to the future.

Project Report

Project: Microcomputers in Agricultural Education

Problem Area:

As the microcomputer revolution began to build momentum, about 1981, I started to look for some way to help our agriculture teachers in Virginia to effectively utilize the new technologies. At that time, there was an obvious lack of usable instructional software in agricultural education. The original purposes of the project were to develop a model for the further development of such software and to provide workshops for agriculture teachers on the use of the microcomputer as an instructional tool. Over the first year of the project, it became obvious that software developers would soon fill that earlier need, thus, my focus changed for the remainder of the project to that of promoting the use of the microcomputer as a telecommunications and management tool.

At the end of the original 3-year project, the Virginia AG ED Network was only partially completed. The program system was in place and a number of teachers had received inservice and limited hardware and software necessary for the use of the network. The problem addressed in this, the fourth year of the project, was how to expand both the scope of the information contained in the data base of the network and the number of Virginia agriculture teachers using the system.

Project Objectives:

1. To continue to operate the Virginia AG ED Network, a free, on-line computer-based instructional information system developed and implemented under this project during FY 87.

2. To add to the instructional data base and services offered by means of the Network.

3. To provide inservice workshops to agricultural education teachers on the use of telecommunications, including but not limited to the Virginia AG ED Network, and its implementation in the agricultural education classroom.

General Description:

1. The original project was a 3-year undertaking, scheduled to last from July 1, 1983 - June 30, 1986. At the conclusion of that time period, the decision was made to extend the funding for an additional year, at a reduced level of support. The final report for the original project (1983-1986) was submitted last year. This report refers to the entire 4-year history of the project, but reports in detail only the extension year, July 1, 1986 -June 30, 1987.

2. The Virginia AG ED Network was originally put "on-line" in January, 1985, but then only part of the time and on an experimental basis. By the time the current project began in July, 1986, the network programming "bugs" were pretty well ironed out and the system was almost fully operational. The thing that was missing was subject matter content to make the system fully useful, as well as operational.

3. This project was designed to collect curriculum material, news information, and instructional material for input into the data base for use by teachers, and to continue to operate the network.

4. A group of teachers and members of the state staff in agricultural education were consulted for input into the materials still needed. This step was conducted in conjunction with the state teachers' workshops held on the Tech campus in July, 1986 and a series of teacher inservice workshops I conducted throughout Virginia, on microcomputer applications during June-August, 1986.

5. Two undergraduate and one graduate students were hired to assist in the collection and development of materials for the system.

6. A 1/8 time secretary was hired for the entire year. Her job was to type the materials developed into the data base, maintain the budgetary records, pay the bills, and handle purchase orders/invoices/etc.

7. I supervised the writing and collection process, directed the payment of bills and invoices, proof-read the materials before keyboarding, conducted workshops in conjunction with and as indirect spin-offs of the project, and promoted the network both in Virginia and nationally.

8. Central to the expansion of the audience was inservice for teachers. Accordingly, I planned and conducted a series of inservice workshops either centered around telecommunications or including that subject as part of a larger workshop.

Accomplishments:

1. The Virginia AG ED Network is, and has been since August 1986, on-line approximately 95% of the time -- 24 hours a day, seven days a week. It operates on a dedicated telephone line in my office. The telephone number is (703) 961-5750.

2. The instruction manual was published in FY 86, and distributed to all Virginia agriculture teachers at that time. In FY 1987, I distributed copies to selected teachers, teacher educators, and state supervisors from throughout the United States.

3. During the summer of 1986, I conducted two workshops strictly

on microcomputer use in telecommunications. Those were held on the Tech campus. In addition, I conducted 4 workshops on management applications of microcomputer software, which incorporated telecommunications software and procedures as a part of the content. Finally, I offered a graduate credit course for agriculture teachers, which included use of the Network. A total of 117 teachers attended the workshops and 17 teachers completed the course.

4. As of today, a total of over 300 sets of information are available for viewing or downloading by users of the system. Of that total, over 200 were added during this year.

5. On the other hand, there has been only minimal use by the intended audience. Approximately 15 Virginia agriculture teachers have registered as users of the system and they utilized the system for fewer than 100 sessions during the year. At the same time, at least a half-dozen teachers have told me that they have purchased modems in the past year so they can use the network in their classes.

Evaluation:

The concept of an electronic educational network for agriculture teachers in Virginia is not economically practicable at this time, if the only criterion is cost-effectiveness as measured in terms of minutes of teacher use per dollar spent. The number of teachers in 1987 who have the hardware and budgetary resources (including telephone line access) is not adequate to justify the expenditure of state funds on a full-scale network. The experience of this project and the dollars spent on hardware, software, and teacher training, have shown that to me very clearly.

On the other hand, the technology is too important to our educational system's and our students' futures, for us to simply give up. Teachers are beginning to use the microcomputer as a telecommunications tool, but the progress in that direction is much less rapid and less drastic than I had expected.

Conclusions and Recommendations:

I believe that this project was worthwhile, not for its direct results, but from the standpoint of the direction that agriculture teachers in Virginia have begun to move, at least partially because of exposure to the Virginia AG ED Network and the workshops I have conducted as a part of the project. In other words, the project represented a good investment of Virginia tax dollars, but not for the stated primary objectives.

Moreover, the associated workshops I have conducted over the past 4 years, either directly as a part of this project, or as indirect spin-offs from it, have been important catalysts in moving the teachers in this state in the direction of computer applications in their programs and classrooms. At one time or another, I have

provided instruction to no less than 400 agriculture teachers (duplicated count) and I estimate that I have worked with at least 75% of all the agriculture teachers in Virginia, on microcomputer applications of one type or another.

Even though the progress has been slow and the direct "economic" pay-off has been low, the long-range effects of the project on Virginia's instructional program in agricultural education will be sizable. Therefore, I recommend the following:

1. that this project be considered as a model for an expanded electronic educational network to include all vocational service areas;

2. that consideration be given to the electronic publication and distribution of existing and new educational materials developed for the Virginia Department of Education, Division of Vocational Education, on that network;

3. that the network be modified to allow for limited electronic mail; and

4. that the development of such a network be presented to the field in the form of a Request for Proposal.

Budget:

All budgetary information will be submitted under separate cover by the Contracts and Grants Department.